

Title (en)

PATTERN BASED AUTOFOCUS METHOD FOR A MICROSCOPY

Title (de)

MUSTER-BASIERTES AUTOFOKUS-VERFAHREN FÜR EIN MIKROSKOP

Title (fr)

PROCÉDÉ D'AUTOFOCALISATION À L'AIDE DE MOTIFS POUR UNE MICROSCOPE

Publication

**EP 3441812 B1 20200701 (EN)**

Application

**EP 17185883 A 20170811**

Priority

EP 17185883 A 20170811

Abstract (en)

[origin: EP3441812A1] A system 100 and method are provided for imaging a sample in a sample holder. For providing autofocus, a 2D pattern is projected onto the sample holder 050 via an astigmatic optical element 120. Image data 172 of the sample is acquired by an image sensor 140 via magnification optics 150. A difference in sharpness of the two-dimensional pattern in the image data is measured along a first axis and a second axis. Based on the difference, a magnitude and direction of defocus of the camera subsystem is determined with respect to the sample holder. This enables the sample holder, and thereby the sample, to be brought into focus in a fast and reliable manner.

IPC 8 full level

**G02B 7/32** (2006.01); **G02B 7/36** (2006.01); **G02B 21/24** (2006.01)

CPC (source: CN EP US)

**G02B 7/32** (2013.01 - EP US); **G02B 7/36** (2013.01 - EP US); **G02B 21/006** (2013.01 - US); **G02B 21/06** (2013.01 - US); **G02B 21/244** (2013.01 - US); **G02B 21/245** (2013.01 - EP US); **G02B 21/365** (2013.01 - US); **H04N 23/54** (2023.01 - CN); **H04N 23/55** (2023.01 - CN); **H04N 23/56** (2023.01 - CN); **H04N 23/67** (2023.01 - CN)

Cited by

CN113532274A

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**EP 3441812 A1 20190213**; **EP 3441812 B1 20200701**; CN 109391758 A 20190226; CN 109391758 B 20210430; US 11442260 B2 20220913; US 2019049708 A1 20190214

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**EP 17185883 A 20170811**; CN 201810909516 A 20180810; US 201816041922 A 20180723